



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No. FAA-2014-1076; Special Conditions No. 25-607-SC]

Special Conditions: Dassault Aviation Model Falcon 5X, Limit Pilot Forces

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final special conditions; request for comments.

SUMMARY: These special conditions are issued for the Dassault Aviation Model Falcon 5X airplane. This airplane will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for transport-category airplanes. This design feature is an electronic flight-control system with pilot controls through a side stick instead of a conventional control stick. The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

DATES: This action is effective on Dassault Aviation on **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. We must receive your comments by **[INSERT DATE 45 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Send comments identified by docket number FAA-2014-1076 using any of the following methods:

- *Federal eRegulations Portal:* Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE., Room W12-140, West Building Ground Floor, Washington, DC, 20590-0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202-493-2251.

Privacy: The FAA will post all comments it receives, without change, to <http://www.regulations.gov/>, including any personal information the commenter provides. Using the search function of the docket Web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the **Federal Register** published on April 11, 2000 (65 FR 19477-19478), as well as at <http://DocketsInfo.dot.gov/>.

Docket: Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Mark Freisthler, FAA, Airframe and Cabin Safety Branch, ANM-115, Transport Airplane Directorate, Aircraft Certification Service, 1601

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SUPPLEMENTARY INFORMATION:

The FAA has determined that notice of, and opportunity for prior public comment on, these special conditions is impracticable because these procedures would significantly delay issuance of the design approval and thus delivery of the affected airplane.

In addition, the substance of these special conditions has been subject to the public-comment process in several prior instances with no substantive comments received. The FAA therefore finds that good cause exists for making these special conditions effective upon publication in the **Federal Register**.

Comments Invited

We invite interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

We will consider all comments we receive by the closing date for comments. We may change these special conditions based on the comments we receive.

Background

On July 1, 2012, Dassault applied for a type certificate for their new Model Falcon 5X airplane. This airplane is a large transport-category airplane to be operated in private/corporate transportation with a maximum of 19 passengers. The Falcon 5X is expected to have a range of 5,200 nm at Mach 0.80. The Model Falcon 5X airplane incorporates a low, swept wing with winglets, and twin rear-fuselage-mounted Snecma Silvercrest turbofan engines. The fuselage is about 23 m long with a 26 m wingspan. The maximum altitude is 51,000 ft and maximum take-

off weight is 30,225 kg. The Model Falcon 5X airplane also features the newest generation of Dassault Aviation's EASy flight deck.

The current limit pilot forces requirement in Title 14, Code of Federal Regulations (14 CFR) part 25 is inadequate for addressing an airplane with electronic flight controls that affect maneuvering.

Type Certification Basis

Under the provisions of 14 CFR 21.17, Dassault Aviation must show that the Model Falcon 5X airplane meets the applicable provisions of part 25, as amended by Amendments 25-1 through 25-136.

If the Administrator finds that the applicable airworthiness regulations (i.e., 14 CFR part 25) do not contain adequate or appropriate safety standards for the Model Falcon 5X airplane because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Model Falcon 5X airplane must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.17(a)(2).

Novel or Unusual Design Features

The Model Falcon 5X airplane will incorporate the following novel or unusual design feature:

This airplane is equipped with an electronic flight-control system that includes pilot controls through a side stick instead of through a conventional control stick.

Discussion

The Dassault Falcon 5X airplane is equipped with a side stick instead of a conventional control stick. The requirement of § 25.397(c), which defines limit pilot forces and torques, applies to conventional wheel or stick control and is therefore not adequate for this new side-stick design.

These special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

Applicability

As discussed above, these special conditions are applicable to the Model Falcon 5X airplane. Should Dassault Aviation apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design feature, these special conditions would apply to that model as well.

Conclusion

This action affects only certain novel or unusual design features on one model of airplane. It is not a rule of general applicability.

The substance of these special conditions has been subjected to the notice and comment period in several prior instances and has been derived without substantive change from those

previously issued. It is unlikely that prior public comment would result in a significant change from the substance contained herein. Therefore, because a delay would significantly affect the certification of the airplane, which is imminent, the FAA has determined that prior public notice and comment are unnecessary and impracticable, and good cause exists for adopting these special conditions upon publication in the **Federal Register**. The FAA is requesting comments to allow interested persons to submit views that may not have been submitted in response to the prior opportunities for comment described above.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued, in lieu of § 25.397(c), as part of the type-certification basis for the Dassault Aviation Model Falcon 5X airplane.

For Model Falcon 5X airplanes equipped with side-stick controls designed for forces to be applied by one wrist and not arms, the limit pilot forces are as follows.

1. For all components between and including the side-stick control-assembly handle and its control stops:

PITCH	ROLL
Nose up, 200 lbf.	Nose left, 100 lbf.
Nose down, 200 lbf.	Nose right, 100 lbf.

2. For all other components of the side-stick control assembly, but excluding the internal components of the electrical sensor assemblies, to avoid damage to the control system as the result of an in-flight jam:

PITCH	ROLL
Nose up, 125 lbf.	Nose left, 50 lbf.
Nose down, 125 lbf.	Nose right, 50 lbf.

Issued in Renton, Washington, on January 20, 2016.

Michael Kaszycki
Acting Manager, Transport Airplane Directorate
Aircraft Certification Service
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